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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,931	02/27/2004	James Gregory Schroth	GP-303037	9545

7590 12/01/2005

KATHRYN A MARRA
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EXAMINER

WOLFE, DEBRA M

ART UNIT	PAPER NUMBER
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3725

DATE MAILED: 12/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/788,931	SCHROTH ET AL.	
	Examiner	Art Unit	
	Debra Wolfe	3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7, 9-11 and 13 is/are rejected.
- 7) ☐ Claim(s) 4, 8, 12 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on February 27, 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |



DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities:

1. Page 1, paragraph 2, line 4 it is suggested by the examiner to add the word "by" between "produced" and "hot gas"

Appropriate correction is required.

Drawings

The drawings are objected to because numeral 20 in Figure 1 and numeral 30' in Figure 2 are missing arrows to designate a particular element of the invention. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.



Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

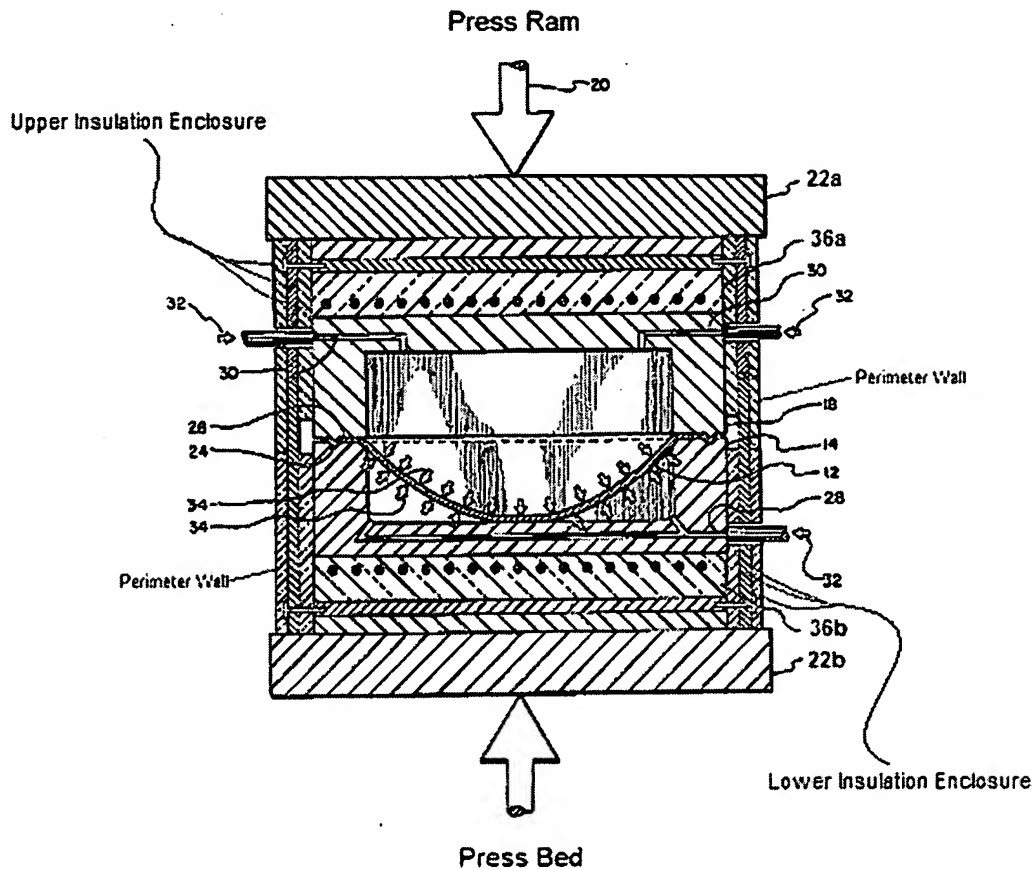
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3, 7 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Ghosh (U.S. Patent # 4,352,280). Ghosh discloses a compression forming apparatus for sheet material having an upper and lower heater plate (36) mounted to a non-heated press, via platens (22) mounted there between and to the press, wherein the heater plates are integrally heated; a first non-integrally heated forming tool (upper die portion 18) is mounted to the upper heater plate (36) and a second non-integrally heated forming tool (lower die portion 14) is mounted to the lower heater plate (36) whereby the forming tools (18, 14) are separately heated by the heater plates; a first and second insulation enclosure including a base portion positioned between each upper and lower heater plate and the presses (See col. 5, line 11) and a perimeter wall (See FIG below) surrounding each upper and lower heater plates and the first and second forming tools (18, 14) whereby when the apparatus closes together the upper insulation enclosure fits within a portion of the lower insulation enclosure to define a closed vessel thereby insulating the forming tools (18, 14) from the surrounding environment (See FIG below; notice different markings on perimeter wall).
2. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Ghosh (U.S. Patent # 4,352,280). Ghosh discloses a compression forming apparatus for sheet material having a first integrally heated heater plate (36a) mounted to a press bed with a first layer of insulation (See



col. 5, line 11) positioned between the integrally heated heater plate (36a) and the press bed; a first forming tool (lower die portion 14) mounted to the integrally heated heater plate (36a) whereby the first forming tool (14) is separately heated by the integrally heated heater plate; a second integrally heated heater plate (36b) mounted to a press ram with a second layer of insulation positioned between the second integrally heated heater plate (36b) and the press ram (See col. 5, line 11); a second forming tool (upper die portion 18) mounted to the second integrally heated heater plate whereby the second forming tool (18) is separately heated by the second integrally heated heater plate (36b); and an insulation enclosure (See FIG below) partially surrounding at least one of the heater plates (36) and forming tools (14, 18) thereby providing insulation from the outside environment. Although Ghosh does not disclose in the drawings a press bed or press ram, column 4, line 58 states that the apparatus shown in FIG 2 is attached to a press and it is known in the art that a press contains a press bed and a press ram, therefore the examiner asserts the above position that the first and second heated heater plates are mounted to a press bed and a press ram.



Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ghosh (U.S. Patent # 4,352,280) in view of Herdzina (U.S. Patent # 5,277,047). Ghosh discloses the invention substantially as claimed (See paragraph 1 of Claim Rejections – 35 USC § 102) except for wherein the apparatus further comprises at least one load-bearing spacer positioned between at least one heater plate and the press. However, Herdzina discloses a conversion system tooling heater having an insulating spacer (62; FIG 1) to minimize heat loss to the lower chase. As noted in paragraph 1 of the Claim Rejections – 35 USC § 102 section, Ghosh does provide insulating plates to hold the heaters against the die and to confine the heat to the die (See col. 5, line 11). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ghosh with an insulating spacer as taught by Herdzina in order to confine the heat to the die and minimize heat loss.

2. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ghosh (U.S. Patent # 4,352,280) in view of Hammar et al (U.S. Patent # 6,810,709). Ghosh discloses the invention substantially as claimed except for wherein at least one insulation enclosure is of non-load bearing insulation. However, Hammar et al discloses a heated metal forming tool having peripheral insulation (35) consisting of non-load bearing insulation (34) encapsulated in



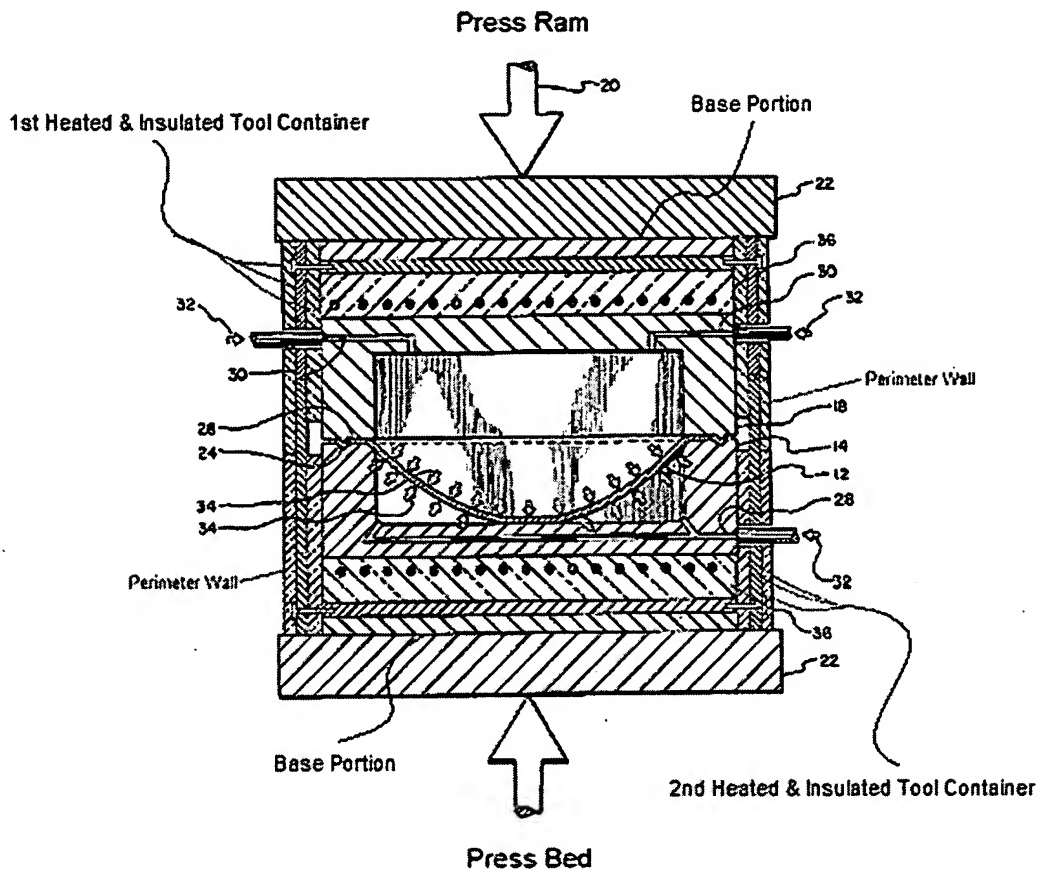
enclosures (50) (See col. 4, lines 1 - 4) for the purpose of reducing heat loss from the forming tool to the environment. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ghosh with the insulation enclosures having non-load bearing insulation as taught by Hammar et al in order to minimize and reduce heat loss to the outside environment.

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ghosh (U.S. Patent # 4,352,280) in view of Mahoney et al (U.S. Patent # 5,277,045). Ghosh discloses the invention substantially as claimed except wherein the heater plate includes electrical resistance heating elements therein. Ghosh does disclose in Figure 2 the heater plates having some type of heating elements encompassed therein but does not specify what the elements are in the disclosure. However, Mahoney et al discloses an apparatus for super plastic forming of metals using a heater plate with resistance heaters (162) to heat the upper and lower metallic housings (130, 140). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ghosh with resistance heating elements as taught by Mahoney et al in order to heat the forming tools and maintain them at a desired temperature.

4. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ghosh (U.S. Patent # 4,352,280) in view of Herdzina (U.S. Patent # 5,277,047). Ghosh discloses a compression forming apparatus for sheet material having a first heated and insulated tool container (See FIG below) including a tool heater plate (heater 36) adapted for attachment to a platen (22) of a press (See col. 4, line 59), an insulation enclosure having a base portion (See FIG below) between the tool heater plate (36) and platen (22) (See col. 5, line 22) and a perimeter wall portion (See FIG below) extending in a substantially perpendicular direction away from the



base portion and surrounding tool heater plate (36), a forming tool (upper die portion 18) mounted to the tool heater plate (36) such that the forming tool (18) is separately heated by the tool heater plate (36); and a second heated and insulated tool container (See FIG below), opposed to the first heated and insulated tool container (See FIG below), including a second tool heater plate (36b) adapted for attachment to an opposed platen (22b) of a press (See col. 4, line 59), a second insulation enclosure having a base portion between the second tool heater plate (36b) and the opposed platen (22b) and a perimeter wall portion (See FIG below) extending in a substantially perpendicular direction away from the base portion and surrounding second tool heater plate (36b), a second forming tool (lower die portion 14) mounted to the second tool heater plate (36b) such that the second forming tool (14) is separately heated by the second tool heater plate (36b). It is also disclosed by Ghosh when the apparatus closes together the upper insulation enclosure fits within a portion of the lower insulation enclosures to define a closed vessel thereby insulating the forming tools (18, 14) from the surrounding environment (See FIG below; notice different markings on perimeter wall). Ghosh discloses the invention substantially as claimed except for wherein a load bearing spacer is positioned between the first heater tool plate and platen and a second load bearing spacer is positioned between the second heater tool plate and platen. However, Herdzina discloses a conversion system tooling heater having a load bearing insulated spacer to minimize the heat loss to the lower chase. It is also noted that Ghosh does provide insulating plates to hold the heaters against the die and to confine the heat to the die (See col. 5, line 11). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ghosh with a load bearing insulating spacer as taught by Herdzina in order to confine the heat to the die and minimize heat loss.



Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

1. Ghosh (U.S. Patent # 4,352,280), Hammar et al (U.S. Patent # 6,810,709), Herdzina (U.S. Patent # 5,277,047) and Mahoney et al (U.S. Patent # 5,277,045) neither anticipates nor render obvious "a perimeter seal mounted to one of the insulation enclosures for sealing with the other seal of the insulation enclosure to define a close and sealed insulation vessel." Therefore, it is noted that the above limitation is allowable subject matter.



2. Claims 4, 8, 12, and 14 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure as showing the state of the art.

1. U.S. Patent # 5,553,474 to Nokajima et al shows a furnace assembly acting as an insulation enclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Debra Wolfe whose telephone number is (571) 272-1904. The examiner can normally be reached Monday - Friday 6am - 3:30pm with alternating Fridays 6am - 2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached at (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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Art Unit: 3725

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Debra Wolfe
Examiner
Art Unit 3725

A handwritten signature in black ink, appearing to read "D. Banks", with a large, stylized loop at the end.

DERRIS H. BANKS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700